

CLAIMS

What is claimed is:

1. An imaging apparatus comprising:
 - a camera casing having an opening;
 - 5 a lens set housed in a lens-barrel; and
 - a pressure member in a cylindrical shape having an opening defined by an annular pressure portion,
 - wherein said opening of said pressure member is caulked with a first lens of said lens set by fixing said pressure member to an outer
 - 10 circumferential portion of said lens-barrel, and
 - said opening of said camera casing is caulked by fixedly housing said fixed pressure member in said camera casing in which a front end portion of said fixed pressure member projects outside from said opening of said camera casing.
- 15 2. The imaging apparatus according to claim 1,
 - wherein said lens set housed in said lens-barrel is a wide-angle lens set,
 - said opening of said pressure member is caulked with a first lens
 - of said wide-angle lens set, and
 - 20 said pressure member is fixedly screwed down to said outer circumferential portion of said lens-barrel in which a convex surface of said first lens projects from said opening of said pressure member to an outside of said pressure member, while an inner circumference of said pressure

member is disposed to extend along an outer circumferential portion of said first lens of said lens set.

3. The imaging apparatus according to claim 1,
wherein said lens set housed in said lens-barrel is a wide-angle
5 lens set,

a step portion is provided in an outer circumference of said pressure member,

said first lens has a protrusion portion provided to form a first step portion and a second step portion in a side surface formed between an
10 object-side convex surface and an imaging-side surface of a first lens of said wide-angle lens set,

said first lens is positioned to be housed in said lens-barrel by said second step portion,

said opening of said pressure member is sealed off with said
15 first lens and a first sealing material disposed in said first step portion of said first lens, while said pressure member is fixedly screwed down to an outer circumferential portion of said lens-barrel in which said object-side convex surface of said first lens projects from said opening of said pressure member to an outside of said pressure member, and

20 a front end of said pressure member screwed down fixedly projects from said opening of said camera casing, and said pressure member screwed down fixedly is fixedly housed in said camera casing in which said opening of said camera casing is sealed off with said pressure member

screwed down fixedly and a second sealing material disposed in said step portion of said pressure member.

4. An imaging apparatus comprising:

a camera casing having an opening;

5 a wide-angle lens set housed in a lens-barrel;

a pressure member in a cylindrical shape having an opening defined by an annular pressure portion;

a step portion provided in an outer circumference of said pressure member;

10 a rising portion having a predetermined diameter which is provided on an object side of a first lens of said wide-angle lens set; and

a flat portion, which is perpendicular to an optical axis, provided continuously to said rising portion,

wherein said pressure member presses said flat portion of said
15 first lens, and said opening of said pressure member caulked with said first lens, while said pressure member is fixedly screwed down to an outer circumferential portion of said lens-barrel in which a convex surface of said first lens projects from said opening of said pressure member to an outside of said pressure member, and

20 a front end portion of said pressure member which is fixedly screwed down projects from said opening of said camera casing, and said pressure member screwed down fixedly is fixedly housed in said camera casing in which said opening of said camera casing is caulked with said step portion of said pressure member.

5. The imaging apparatus according to claim 4, further comprising:
a sealing material disposed between said pressure member and
said first lens; and

a protrusion provided in a front end of said pressure member for
5 abutting against an object side surface of said first lens,
wherein compression ratio of said sealing material compressed
by said pressure member is established by abutment between said protrusion
and said object side surface of said first lens.

6. The imaging apparatus according to claim 5, wherein
10 a clearance between said pressure member and said first lens is
larger than a width of said sealing material before said pressure member is
fixedly screwed down to said lens-barrel, while said sealing material is
pressed and deformed to close said clearance when said pressure member is
fixedly screwed down to said lens-barrel.

15 7. The imaging apparatus according to claim 5,
wherein a sealing material for sealing is disposed between said
pressure member and said camera casing, and wherein
a clearance between said pressure member and said camera
casing is larger than a width of said sealing material before said pressure
20 member is fixedly screwed down to said lens-barrel, while said sealing
material is pressed and deformed to close said clearance when said pressure
member is fixedly screwed down to said lens-barrel.

8. The imaging apparatus according to claim 5,

wherein a diameter of said sealing material is between 0.5 mm and 3.0 mm.

9. The imaging apparatus according to claim 5,
wherein a diameter of said sealing material is between 0.7 mm
5 and 1.4 mm.

10. The imaging apparatus according to claim 5,
wherein a length of said flat portion is at least 0.7 mm.

11. The imaging apparatus according to claim 5,
wherein a rising length of said rising portion is at least 1.2 mm.

10 12. An imaging apparatus comprising:
a camera casing having an opening; and
a lens assembly including a lens-barrel for housing a lens set
positioned relatively to each other, a pressure member in a cylindrical shape
surrounding an outer circumference of said lens-barrel, and an opening
15 defined by said pressure member,

wherein said opening of said pressure member is caulked with a
first lens of said lens set by fixedly screwing said pressure member down to
an outer circumferential portion of said lens-barrel, and

said opening of said camera casing is caulked by fixedly housing
20 said pressure member screwed down fixedly in said camera casing in which a
front end portion of said pressure member screwed down fixedly projects
outside from said opening of said camera casing.

13. The imaging apparatus according to claim 12,
wherein said camera casing has a front casing including said
opening of said camera casing, and a rear casing, and
said lens assembly is inserted into said front casing from a rear
5 side thereof and then fixed by screwing from said rear side, while said front
casing and said rear casing are fixed by screwing from said rear side of said
rear casing.